AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of cloning a non-human mammal, said method comprising the steps of:

(a) ~~providing a permeabilized cell, said~~ permeabilizing a mammalian cell, thereby generating a permeabilized cell having pores in its plasma membrane or a partial plasma membrane;

(b) incubating said permeabilized cell in ~~a mitotic cell extract~~ an extract from a mitotic cell under conditions that allow chromatin condensation and nuclear envelope breakdown of said permeabilized cell;

(c) inserting said cell formed in step (b) into a nucleated or enucleated oocyte, thereby forming a reconstituted oocyte; and

(d) transferring said reconstituted oocyte or an embryo formed from said reconstituted oocyte into the uterus of a host mammal under conditions that allow said reconstituted oocyte or said embryo to develop into a fetus.

2. (Cancelled)

3. (Cancelled)

4. (Currently amended) The method of claim 1, wherein a chromatin mass is formed from incubation of said permeabilized cell in said ~~mitotic cell~~ extract from said mitotic cell.

5. (Previously presented) The method of claim 1, wherein, said cell formed in step (b) is incubated under conditions that allow the plasma membrane of said cell to

reseal.

6. (Currently amended) The method of claim 1, wherein said cell formed in step (b) is purified from said ~~mitotic cell~~ extract from said mitotic cell prior to insertion into said nucleated or enucleated oocyte.

7. (Original) The method of claim 1, wherein said fetus develops into a viable offspring.

8. (Previously presented) The method of claim 1, wherein said reconstituted oocyte from step (c) is cultured under conditions that allow cell division and one of the resulting cells is recloned one or more times.

9. (Previously presented) The method of claim 1, wherein said permeabilized cell and said nucleated or enucleated oocyte are from the same species.

10. (Original) The method of claim 1, wherein said non-human mammal is a cow, sheep, rabbit, pig, mouse, rat, goat, or buffalo.

11. (Original) The method of claim 10, wherein said non-human mammal is a cow.

12. (Original) The method of claim 1, wherein said permeabilized cell is a fibroblast, epithelial cell, neural cell, epidermal cell, keratinocyte, hematopoietic cell, melanocyte, chondrocyte, B-lymphocyte, T-lymphocyte, erythrocyte, macrophage, monocyte, muscle cell, embryonic stem cell, embryonic germ cell, fetal cell, placental cell, or embryonic cell.

13. (Original) The method of claim 1, wherein said permeabilized cell is a cell of the female reproductive system.

14. (Previously presented) The method of claim 13, wherein said permeabilized cell is a mammary gland, ovarian cumulus, granulosa, or oviductal cell.

15. (Currently Amended) The method of claim 1, wherein said reconstituted ~~ooctye~~ oocyte from step (b) expresses lamin A, lamin C, or NuMA protein at a level that is less than ~~5-fold~~ 5-fold greater than the corresponding level expressed by a control oocyte from the same species.

16-42. (Canceled)

43. (Currently amended) The method of claim 1, wherein said ~~mitotic cell~~ extract from said mitotic cell is an extract from a mitotic somatic cell ~~extract~~.

44. (Previously presented) The method of claim 1, wherein said permeabilized cell is generated by incubating a somatic cell from a non-human mammal with streptolysin O.

45. (Previously presented) The method of claim 44, wherein said streptolysin O concentration is between 100 - 4000 ng/ml.

46. (Previously presented) The method of claim 45, wherein said streptolysin O concentration is 500 ng/ml.

47. (Previously presented) The method of claim 44, wherein said incubating with streptolysin O is carried out for 15-60 minutes.

48. (Previously presented) The method of claim 47, wherein said incubating with streptolysin O is carried out for between 25-30 minutes.

49. (Previously presented) The method of claim 44, wherein said incubating with streptolysin O is carried out at between 25-38°C.

50. (Previously presented) The method of claim 49, wherein said incubating with streptolysin O is carried out at 38°C.

51. (Previously presented) The method of claim 1, wherein said inserting in step (c) is carried out by fusion of said permeabilized cell with said nucleated or enucleated oocyte.

52. (Previously presented) The method of claim 1, wherein said oocyte of step (c) is enucleated.

53. (Previously presented) The method of claim 1, wherein said reconstituted oocyte is activated prior to transfer into the uterus of said host mammal.